

REMARKS

Applicants have added new dependent claims 88-93 as set forth above. In view of the above amendments and the following remarks, reconsideration of the outstanding office action is respectfully requested.

The Office has rejected claims 62 and 77 under 35 U.S.C. § 102(b) as being anticipated by Tabata ('717) and has also rejected claims 62, and 77 under 35 U.S.C. § 102(b) as being anticipated by Kitagawa ('591). The Office asserts that Tabata discloses a microscope with a source (16) for a homogeneously polarized input optical beam, a polarization converter (68) which produces an inhomogeneously polarized optical beam from the homogeneously polarized input optical beam and a microscopic imaging system (9, 30) which captures an image of a sample (5) using the inhomogeneously polarized optical beam. The Office refers to Fig. 22 along with the associated description thereof in Tabata for support. The Office also asserts that Kitagawa discloses a microscope with a source [(11, 13), (51, 33)] for a homogeneously polarized input optical beam, a polarization converter (8, 37) which produces an inhomogeneously polarized optical beam from the homogeneously polarized input optical beam and a microscopic imaging system (24, 45) which captures an image of a sample using the inhomogeneously polarized optical beam. The Office refers to Figures 1 and 7 along with the associated description thereof in Kitagawa for support.

Neither Tabata nor Kitagawa, alone or in combination, disclose or suggest, "a polarization converter which produces an inhomogeneously polarized optical beam from the homogeneously polarized input optical beam" as recited in claim 62 or "producing an inhomogeneously polarized optical beam from the input optical beam" as recited in claim 77. Both Tabata and Kitagawa describe apparatuses in which a homogeneously polarized beam is split into two parts and is recombined. The result in both Tabata and Kitagawa is a homogeneously polarized output whose state is controlled by the phases between the two beams.

With respect to the Office's citation in Tabata, as disclosed in FIG. 22 and at col. 11, line 63, to col. 12, line 19, a compound polarizing plate 68 includes a polarizing plate 66 which transmits the x polarized component and a polarizing plate 67 which transmits the y polarized component. As disclosed at col. 12, lines 57-58 in Tabata, the light source system 16 used with the compound polarizing plate 68 is similar to the light source system in the first

embodiment. As disclosed at col. 4, lines 23-35 and FIG. 4 in Tabata, when the x polarized and y polarized components are recombined they form linearly polarized light making 45 degree angle with the x-axis, right-handed circularly polarized light, linearly polarized light making -45 degree angle with the x-axis, or left-handed, circularly polarized light depending on the phase difference, but in all instances the recombined light in Tabata is homogeneously polarized. With respect to the Office's citations in Kitagawa, as disclosed in FIG. 1 and at col. 8, lines 14-17 in Kitagawa, the two light fluxes b' and c' are transmitted through the transparent portion 81 and the phase portion 82 of the photomask 8 which produces a phase difference due to the phase difference of the photomask 8, but like Tabata does not produce an inhomogeneously polarized optical beam as claimed. Similarly, as disclosed in FIGS. 4 and 7 and col. 10, line 36 col. 11, line 15 in Kitagawa, the reticle 37 has a similar transparent portion 39 and a phase shift portion 40 which produces a phase difference due to the phase difference of the photomask, but also does not produce of an inhomogeneously polarized optical beam. Accordingly, both Tabata and Kitagawa produce conventional, homogeneously polarized light, not the production of an inhomogeneously polarized optical beam as claimed.

In contrast, the present invention discloses producing an inhomogeneously polarized optical beam from a homogeneously polarized input optical beam, e.g. on page 8, lines 1-2, page 10, lines 23-26 and page 15, lines 3-20 of the above-identified patent application. As discussed in the above-identified patent application, an inhomogeneously polarized beam can take the form of an azimuthally polarized or a radially polarized beam. An inhomogeneously polarized beam is advantageous because it provides a unique distribution of the electric field near the focus of an imaging system that can be used to advantage in surface and particle imaging and in electron manipulation. In view of the foregoing amendments and remarks, the Office is respectfully requested to reconsider and withdraw the rejection of claims 62 and 77.

The Office has rejected claims 62-66 and 77-81 are rejected under 35 U.S.C. § 102(a) as being anticipated by the article entitled, "Inhomogeneous Polarization in Scanning Optical Microscopy" by K.S. Youngworth and T.G. Brown, Proceedings of SPIE, 3919:75-85 was published on or about May of 2000 ("Youngworth et al. Article"). Applicants respectfully traverse the rejection because Youngworth et al. Article is not prior art with respect to the above-identified patent application. As set forth in ¶ 4 in the accompanying

Declaration of Thomas G. Brown, The Youngworth et al. Article was published on or about July 17, 2000, which is within one year of the January 12, 2001, filing date of the above-identified patent application. Additionally, as set forth in ¶ 5 in the Declaration of Thomas G. Brown, the subject matter described in the Youngworth et al. Article is the work of the named inventors. Further, as set forth in ¶ 3 in the Declaration of Thomas G. Brown, the named inventors for the above-identified patent application are correct. Accordingly, in view of the foregoing remarks, the Office is respectfully requested to reconsider and withdraw this rejection.

Applicants have also added new dependent claims 88-93 which are believed to be distinguishable over the cited references and in condition for allowance. Support for these new dependent claims can be found by way of example in FIGS. 1, 2, 5A, and 5B and at page 10, lines 23-28, page 13, lines 19-26, and page 19, line 16 to page 21, line 10. No new matter has been added by way of these amendments.

In view of all of the foregoing, applicant submits that this case is in condition for allowance and such allowance is earnestly solicited.

Respectfully submitted,

Date: April 20, 2003

Gunnar G. Leinberg
Gunnar G. Leinberg
Registration No. 35,584

NIXON PEABODY LLP
Clinton Square, P.O. Box 31051
Rochester, New York 14603-1051
Telephone: (585) 263-1014
Facsimile: (585) 263-1600

CERTIFICATE OF MAILING OR TRANSMISSION [37 CFR 1.8(a)]

I hereby certify that this correspondence is being:

- ☒ deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450
- ☐ transmitted by facsimile on the date shown below to the United States Patent and Trademark Office at (703) _____.

4/20/03
Date

Sherri A. Moscato
Signature

Sherri A. Moscato
Type or Print Name